

REMARKS

This responds to the Office Action dated on January 20, 2006, and the references cited therewith.

Claim 90 is amended, no claims are canceled, and no claims are added; as a result, claims 1-10, 14-21, 24-77 and 79-92 are now pending in this application.

Reservation of the Right to Swear Behind References

Applicant maintains its right to swear behind any references which are cited in a rejection under 35 U.S.C. §§ 102(a), 102(e), 103/102(a), and 103/102(e). Statements distinguishing the claimed subject matter over the cited references are not to be interpreted as admissions that the references are prior art.

§112 Rejection of the Claims

Claims 90-92 were rejected under 35 U.S.C. § 112, second paragraph. Applicant has amended claim 90 to provide proper antecedent basis for claims 90-92. Applicant respectfully requests that this rejection be withdrawn.

§102 Rejection of the Claims

Claims 1-9, 14, 16, 18-21, 24, 25, 33-43, 45-77, and 79-81 were rejected under 35 U.S.C. § 102(e) as being anticipated by Takenoshita et al. (U.S. Patent No. 6,419,443 B2). Applicant respectfully traverses this rejection.

The cited reference of Takenoshita relates to a machine for shaping glass using a rotating grindstone 23 and a moving table 13 for traversing the glass in the cross direction of the grindstone. The grindstone is able to move in an up and down motion and is held against the glass by a pressure cylinder 24 that provides a fixed elastic load and a fixed force pressure of the grindstone to the glass being shaped. As may be seen in figures 1-6, 10 and 11, and at columns 3, line 49 to column 5, line 33, the rotation of the grindstone 23 is in a direction to throw the debris of the grinding towards the end of the glass shape marked "W", which is the portion of the glass that has not been ground yet, as shown by the direction arrow on the right side of the glass.

Applicant respectfully submits that the cited reference fails to disclose at least the feature of “...move the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion of the wafer...”, as recited in independent claims 1, 14, 26, 33, 45, 47, 49, 51, 61, 72, 77, 82 and 90. As noted above the cited reference shows in Figures 6, 10 and 11 and the associated text, that the grindstone rotates to throw the material removed from the glass shape towards the portion of the glass that has not been ground during the shown grinding pass. Applicant further notes that the cited reference makes no reference that has been found as to any benefit that may be found to rotating the grindstone 23 in any other direction than that described.

Applicant also respectfully submits that the cited reference is directed towards grinding shaped glass, and does not disclose a wafer, as compared to a shaped glass lens, a polishing pad as compared to a grindstone, a fixed distance between the platen and the polishing pad, as compared to a fixed pressure between the grindstone and the shaped glass, or numerous other recited features of various claims in addition to those discussed above.

The dependent claims are held to be in patentable condition at least as depending from base claims shown above to be patentable over the cited reference. In view of the above, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

§103 Rejection of the Claims

Claims 10, 15, 26-32, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takenoshita et al. (U.S. Patent No. 6,419,443 B2) in view of Moriyasu et al. (U.S. Patent No. 6,126,523). Applicant respectfully traverses this rejection.

The cited reference of Takenoshita has features that have been discussed above. The cited reference of Moriyasu is used in the outstanding Office Action to show that dressing devices comprising a finely tuned laser beam are known. Applicant respectfully submits that the flat circular photo-reactive grinding wheel 1 and chemical etchant material 4, can not be added to the system disclosed by Takenoshita without some suggestion as to how to apply the Moriyasu method on a flat plate to the cylindrical grindstone of Takenoshita. Applicant respectfully submits that no objective evidence has been shown by the Examiner to provide motivation to make the suggested combination of references.

Applicant further respectfully submits that even if the Moriyasu reference is properly combinable with Takenoshita, the result still does not disclose or suggest at least the claimed features of “...*move the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion of the wafer...*” as recited in the independent claims 1, 14, 26 and 33, from which the dependent claims in question depend.

Beyond the feature discussed above, independent claim 26 further recites “... *wherein the polishing pad drum and the platen are adapted to be operably positioned to provide a predetermined minimum distance between the polishing pad drum and the platen as the polishing pad drum and the platen pass each other due to the linear motion ...*”, which feature is also not described or suggested by the combination of references since Takenoshita follows the shape of the glass panel and thus does not maintain a fixed distance to the platen 13. The cited Takenoshita reference is submitted to be inoperative if the suggested feature were to be applied to it, since it requires a fixed pressure to the substrate and not a fixed distance to the platen.

In view of the above, Applicant respectfully submits that independent claims 1, 14, 26 and 33 are patentable over the suggested combination of references, and requests that this rejection be reconsidered and withdrawn.

Claim 44 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Takenoshita et al. (U.S. Patent No. 6,419,443 B2) in view of Wolff et al. (U.S. Patent No. 4,486,826). Applicant respectfully traverses this rejection.

The cited reference of Takenoshita has features that have been discussed above. The cited reference of Wolff, is used in the outstanding Office Action to show that it is known to use a computer controller comprising a control unit, a processor, and input/output devices coupled to the control unit. Applicant respectfully submits that it is improper to combine a fault tolerance computer system with redundant backup systems for error free control of data transfers on redundant parallel bus lines between redundant elements of an arbitrated parallel computer system, such as described by Wolff, with the glass grinding apparatus of Takenoshita without indicating where in the cited references some indication of objective evidence of a motivation to make the suggested combination might exist. Applicant respectfully submits that no proper motivation has been shown by the Examiner to make the suggested combination.

Applicant further submits that the suggested combination of references, even if proper, still does not describe or suggest at least the claimed features of “...*move at least one of the polishing pad drum and the platen to polish the wafer while moving the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion of the wafer* ...”, as recited in claim 33, from which claim 44 directly depends. As noted above with reference to the prior rejections, the cited Takenoshita reference throws debris toward the portion of the glass that will next be polished. Nothing in Wolff has been found to suggest a cure for this failure of Takenoshita. Applicant respectfully requests that this rejection be reconsidered and withdrawn.

Claims 82 and 86-89 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koos et al. (U.S. Patent No. 5,934,980) in view of Takenoshita et al. (U.S. Patent No. 6,419,443 B2). Applicant respectfully traverses this rejection.

The cited reference of Takenoshita has features that have been discussed above. The cited reference of Koos, is used in the outstanding Office Action to show that polishing the substrate by rotating a drum and creating a linear movement between the drum and substrate are known in the art. Applicant respectfully submits that no objective evidence has been shown by the Examiner to provide motivation to make the suggested combination of a glass shaping reference with the apparatus of Koos.

Applicant respectfully submits that even if the suggested combination of references is proper, the combination still fails to describe or suggest at least the claimed feature of “...*creating a linear movement between the polishing pad drum and the platen while moving the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion of the wafer* ...”, as recited in claim 82, from which claims 86-89 depend. As discussed above, the Takenoshita reference does not relate to a system that throws the debris toward a previously processed portion of the wafer, but rather towards the portion to be processed next. Applicant has found no indication in the cited reference of Koos to correct the above noted failure of Takenoshita to describe or suggest at least this feature of the claims in question.

Applicant respectfully submits that independent claim 82 is thus shown to be patentable over the suggested combination of references. The dependent claims are felt to be in patentable condition at least as depending from a patentable base claim. Applicant respectfully requests that this rejection be reconsidered and withdrawn.

Claims 83-93 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koos et al. (U.S. Patent No. 5,934,980) in view of Takenoshita et al. (U.S. Patent No. 6,419,443 B2) as applied to claim 82 above, and further in view of Yano et al. (U.S. Patent No. 5,483,568). Applicant respectfully traverses this rejection.

The cited references of Takenoshita and Koos have features that have been discussed above with reference to the previous rejection. The cited reference of Yano, is used in the outstanding Office Action to show that it is known to polish a substrate, check the substrate and repolish if required. Applicant respectfully submits that no objective evidence has been shown by the Examiner to provide motivation to make the suggested combination of references.

Applicant respectfully submits that the suggested combination of references fails to describe or suggest at least the claimed feature of “...*creating a linear movement between the polishing pad drum and the platen while moving the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion of the wafer ...*”, as recited in claim 82. Neither Koos nor Yano are seen as curing the above noted failure of Takenoshita to throw the polishing debris towards the portion of the substrate to be polished next.

Applicant respectfully submits that the suggested combination of references fails to describe or suggest at least the claimed feature of “...*polishing the wafer by rotating the polishing pad drum and creating a linear movement between the polishing pad drum and the platen holding the wafer while moving the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion of the wafer ...*”, as recited in independent claim 90, as amended herein. The cited combination fails to disclose or suggest directing the polishing debris away from the portion to be processed next.

Applicant respectfully submits that the dependent claims are in patentable condition at least as depending from patentable base claims. Applicant respectfully requests that this rejection be reconsidered and withdrawn.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's David Suhl at (508) 865-9261, or the undersigned attorney at (612) 373-6960 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

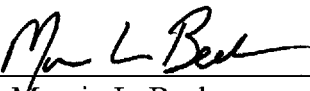
Respectfully submitted,

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Date 4-20-06

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CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 20 day of April 2006.

KATE CANNON
Name


Signature